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=> d que stat l20
L2          203 SEA FILE=HCAPLUS ABB=ON  ?MULTIVAL?(W)?VACCIN?
L3           87 SEA FILE=HCAPLUS ABB=ON  L2 AND (?VIRUS? OR ?VIRAL?)
L4           64 SEA FILE=HCAPLUS ABB=ON  L3 AND ?ANTIGEN?
L6            2 SEA FILE=HCAPLUS ABB=ON  L3 AND ?HEAT?
L7            9 SEA FILE=HCAPLUS ABB=ON  L4 AND (?ORAL? OR ?MOUTH?)
L8           11 SEA FILE=HCAPLUS ABB=ON  L6 OR L7
L9          480 SEA FILE=HCAPLUS ABB=ON  (?VIRUS? OR ?VIRAL?)(W)?PATHOGEN? AND
                (?INDUCT? OR ?ACTIVAT?)
L10          97 SEA FILE=HCAPLUS ABB=ON  L9 AND (?REDUC? OR ?ORAL? OR ?MOUTH?)
L11          10 SEA FILE=HCAPLUS ABB=ON  L10 AND ?INFLUENZA?
L12           4 SEA FILE=HCAPLUS ABB=ON  L8 AND ?INFLUENZA?
L14           6 SEA FILE=HCAPLUS ABB=ON  (?IMMUNOGEN? OR ?IMMUN?(W)?RESPONS?)
                AND (?ORAL? OR ?MOUTH?)(W)(?PILL? OR ?TABLET)
L16           1 SEA FILE=HCAPLUS ABB=ON  L14 AND (ADD? OR ?ADJUVANT?)
L19           4 SEA FILE=HCAPLUS ABB=ON  L14 AND (?VIRUS? OR ?VIRAL?)(W)?INFECT
                ?
L20          27 SEA FILE=HCAPLUS ABB=ON  L8 OR L11 OR L12 OR L14 OR L16 OR L19

=> d ibib abs l20 1-27

L20  ANSWER 1 OF 27  HCAPLUS  COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER:         2003:717609  HCAPLUS
DOCUMENT NUMBER:          139:244694
TITLE:                    Bovine VDJ cassette BF1H1 for use for immunoglobulin
                          antigenization, vaccine vector, molecular
                          marker, and forensic analysis
INVENTOR(S):              Kaushik, Azad; Saini, Surinder Singh
PATENT ASSIGNEE(S):       Can.
SOURCE:                   U.S. Pat. Appl. Publ., 14 pp.
                          CODEN: USXXCO
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE          APPLICATION NO.  DATE
     ---------------   ----  --------      ---------------  --------
     US 2003170646      A1   20030911      US 2002-125594   20020419
PRIORITY APPLN. INFO.:                   US 2001-284899P  P  20010420
AB   The present invention relates to a bovine VDJ cassette (BF1H1) that
     provides the novel ability to develop chimeric Ig mol. capable of
     incorporating both linear T cell epitope(s) (CDR1H and CDR2H) as well as
     conformational B cell epitope(s) (exceptionally long CDR3H). Further,
     multiple epitopes can be incorporated for development of
     multivalent vaccine by replacing at least a portion of
     an Ig mol. with the desired epitope such that functional ability of both
     epitope(s) and parent VDJ rearrangement is retained. The
     antigenized Ig incorporating both T and B epitopes of interest is
     especially useful for development of oral vaccines for use in humans
     apart from other species including cattle. The long CDR3H in BF1H1 VDJ
     rearrangement originates from long germline D-genes. The novel bovine
     germline D-genes provide addnl. opportunities for sustaining the capacity
     for antibody diversification in cattle essential for immunocompetence via
     selective breeding strategies that incorporate Ig gene markers. The novel
     gene elements, such as D-genes, are unique to cattle and, therefore, are
     useful in forensic anal.

L20  ANSWER 2 OF 27  HCAPLUS  COPYRIGHT 2003 ACS on STN
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ACCESSION NUMBER: 2003:454501 HCAPLUS
DOCUMENT NUMBER: 139:35072
TITLE: Vectors comprising nucleotide sequences for target immunogen, PI31, CIIIA and antisense HERNA mRNA, and their uses including use as vaccines
INVENTOR(S): McCreavy, David Thomas; Fraser, William Duncan; Gallagher, James Anthony
PATENT ASSIGNEE(S): University of Liverpool, UK
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003048371	A2	20030612	WO 2002-GB5512	20021206
WO 2003048371	A3	20030912		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: GB 2001-29338 A 20011207
GB 2002-23829 A 20021012

AB The invention provides vectors (such as viral vectors, plasmid vectors or phagemids) comprising: (a) a heterologous nucleotide sequence encoding an antigenic polypeptide from a pathogen (such as viral, bacterial, parasitic or fungal); (b) a nucleotide sequence encoding a protease inhibitor (such as human PI31); a nucleotide sequence for a constitutive, regulatable, and/or cell/tissue-specific promoter; and (d) a nucleotide sequence encoding an inhibitory RNA mols., specifically an antisense human HERNA oligonucleotides. The invention also provides vectors comprising a nucleotide sequence encoding CIITA, a polypeptide that stimulates the expression of MHC class II genes. The invention further provides the use of said vectors as vaccines in production of an immune response (**humoral**) to said antigens in an animal, such as human, wherein said vaccination may be against a viral, fungal, bacterial or parasitic disorder. Still further, the invention relates: (a) using said vectors in production of antibodies, wherein said antibodies may be of therapeutic and/or of diagnostic use; (b) that said vectors may be adapted for expression of humanized or chimeric antibodies; and (c) that said vectors may be used to used to immunize animals for production of hybridomas expressing a monoclonal antibody against antigen of interest. Finally, the invention provides the cDNA sequences of mouse CIITA, and human PI31, and partial cDNA sequence of human HERNA helicase. The invention related that the use of said vectors containing said sequences can be used to enhance secretion of translated immunogen, and enhance DNA vaccination bias away from an MHC class I event towards MHC class II event. In the examples, the invention presented the construction of two vectors, pcDNAFinal and pcDNA6TR-IRES-CIITA, wherein pcDNAFinal contains nucleotide sequences encoding immunogen parathyroid hormone-related protein (PTHrP), antisense HERNA mRNA, PI31 and CD4+ T-cell epitope from lymphocytic choriomeningitis

virus and wherein pcDNA6TR-IRES-CIITA encodes CIITA. Specifically, the invention related that: (a) antisense HERNA RNA can increase the transcriptional efficiency of vectors resulting in greater levels of transgene expression; (b) PI31 can inhibit proteasome digestion of recombinant antigen making it more assessable to MHC class II antigens; (c) inclusion of CD4+ T-cell epitope ensured that degraded immunogen-MHC class II complex bound to CD4+ T cells; and (d) inclusion of CIITA protein allowed for over-expression of MHC class II antigens.

L20 ANSWER 3 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2003:395644 HCAPLUS
DOCUMENT NUMBER: 139:97970
TITLE: P58IPK, a plant ortholog of double-stranded RNA-dependent protein kinase PKR inhibitor, functions in **viral pathogenesis**
AUTHOR(S): Bilgin, Damla D.; Liu, Yule; Schiff, Michael; Dinesh-Kumar, S. P.
CORPORATE SOURCE: Department of Molecular Cellular and Developmental Biology, Yale University, New Haven, CT, 06520, USA
SOURCE: Developmental Cell (2003), 4(5), 651-661
CODEN: DCEEBE; ISSN: 1534-5807
PUBLISHER: Cell Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB P58IPK is a cellular inhibitor of the mammalian double-stranded RNA-**activated** protein kinase (PKR). Here we provide evidence for the existence of its homolog in plants and its role in viral infection at the organism level. Viral infection of P58IPK-silenced Nicotiana benthamiana and Arabidopsis knockouts leads to host death. This host cell death is associated with phosphorylation of the α subunit of eukaryotic translation initiation factor (eIF-2α). Loss of P58IPK leads to **reduced** virus titer, suggesting that wild-type P58IPK protein plays an important role in **viral pathogenesis.** Although our complementation results using mammalian P58IPK suggest conservation of the P58IPK pathway in plants and animals, its biol. significance seems to be different in these two systems. In animals, P58IPK is recruited by the **influenza** virus to limit PKR-mediated innate antiviral response. In plants, P58IPK is required by viruses for virulence and therefore functions as a susceptibility factor.
REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 4 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2003:173463 HCAPLUS
DOCUMENT NUMBER: 138:203669
TITLE: Vaccine using papilloma virus E proteins delivered by viral vector
INVENTOR(S): Huang, Lingyi; Jansen, Kathrin U.; McClements, William L.; Monteiro, Juanita; Schultz, Loren D.; Tobery, Timothy; Wang, Xin-Min; Chen, Ling
PATENT ASSIGNEE(S): Merck & Co., Inc., USA
SOURCE: PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 2003018055 A1 20030306 WO 2002-US26965 20020819
W: CA, US
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR
PRIORITY APPLN. INFO.: US 2001-314395P P 20010823
AB Cell-mediated **immune response** to a **papillomavirus infection** can be induced by vaccination with DNA encoding papillomavirus E genes. E genes can both prevent the occurrence of papillomavirus disease, and treat disease states. Canine papillomavirus (COPV) E genes which are codon-optimized to enhance expression in host cells are also given.
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 5 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2003:62210 HCAPLUS
DOCUMENT NUMBER: 139:83562
TITLE: Rapid onset of protection following vaccination of calves with **multivalent vaccines** containing modified-live or modified-live and killed BHV-1 is associated with **virus**-specific interferon gamma production
AUTHOR(S): Woolums, Amelia R.; Siger, Leonardo; Johnson, Scott; Gallo, Guillermo; Conlon, Jennifer
CORPORATE SOURCE: Department of Large Animal Medicine, College of Veterinary Medicine, Athens, GA, 30602, USA
SOURCE: Vaccine (2003), 21(11-12), 1158-1164
CODEN: VACCDE; ISSN: 0264-410X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The objective of this study was to determine the effect of vaccination with com.-available **multivalent vaccines** containing either modified-live (MLV) bovine **herpesvirus**-1 (BHV-1) (Bovishield) or MLV plus killed (MLV+K) BHV-1 (Reliant Plus) on protection against challenge at 5 days after a single vaccination. An addnl. objective was to determine whether cell-mediated immunity as measured by **virus**-specific interferon gamma (IFN-γ) production by peripheral blood mononuclear cells (PBMC) was associated with any early protection induced by vaccination. Clin. signs, serum neutralizing (SN) titers, and nasal **virus** isolation (VI) titers were also measured. The 12-16-wk-old dairy cross-calves seroneg. for antibodies to BHV-1 were vaccinated with a **multivalent vaccine** containing MLV BHV-1 (n=19), a **multivalent vaccine** containing MLV+K BHV-1 (n=19), or a control **multivalent vaccine** not containing BHV-1 (n=10) on day 0 and challenged intranasally on day 5. PBMC were isolated on days 0, 3, 5, 8, 10, 14 and 19. PBMC were incubated in vitro with spent media, live BHV-1, or **heat**-inactivated BHV-1 for 72 h. Supernatants were assayed for bovine IFN-γ by ELISA. Bovine **herpesvirus**-1-specific IFN-γ production was expressed as percent of the kit pos. control, with value for spent media subtracted. Clin. signs were monitored daily. Serum VN titers were measured on days 0-5 and 19. Nasal VI titer was measured every other day from days 5 to 19. Interferon gamma production was higher on day 5, and was significantly increased post-challenge, in both vaccine groups compared to controls. There was no difference between vaccine groups on any day. There was no significant difference in SN titer among groups on any day. **Virus** isolation titer was significantly higher in controls on days 6 and 8 compared to both vaccine groups. Temps. were significantly higher and nasal discharge was present more often post-challenge in controls compared to vaccine

groups. Vaccination 5 days prior to challenge with com.-available vaccine containing MLV or MLV+K BHV-1 was associated with increased BHV-1-specific IFN-γ production, decreased **viral** shedding, lower temps. and less nasal discharge post-challenge. Cell mediated immune responses as measured by IFN-γ production are stimulated rapidly following BHV-1 vaccination of calves.

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 6 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2003:31621 HCAPLUS
DOCUMENT NUMBER: 138:253256
TITLE: V-1 Immunitor: oral therapeutic AIDS vaccine with prophylactic potential
AUTHOR(S): Jirathitikal, Vichai; Sooksathan, Penpit; Metadilogkul, Orapun; Bourinbaiar, Aldar S.
CORPORATE SOURCE: Immunitor Corporation Co. Ltd., Chachoengsao, 24130, Thailand
SOURCE: Vaccine (2003), 21(7-8), 624-628
CODEN: VACCDE; ISSN: 0264-410X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB V-1 Immunitor (V1) is a therapeutic vaccine comprising pooled HIV antigens formulated into an **oral pill**. Recent V1 studies demonstrated body weight gain, increase in CD4 and CD8 cells, decrease in viral load, and improved survival of end-stage AIDS patients. The potential of V1 as a prophylactic vaccine has been evaluated in a phase II placebo-controlled trial on 35 volunteers. Twenty HIV-neg. volunteers who received V1 b.i.d. for 4 wk had gained 28.2 and 17.5% in absolute CD4 (825 vs. 1058; P=0.007) and CD8 (597 vs. 702; P=0.013) cells, while lymphocytes in placebo group did not increase, suggesting that CD4 and CD8 counts may become an easily measurable immune correlate of the efficacy of AIDS vaccines. V1 does not appear to induce HIV-specific antibodies as orally administered **immunogens** usually produce cell-mediated but not systemic humoral response. V1 as a preventive oral vaccine targeting cellular and mucosal immunity deserves further evaluation.
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 7 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:715722 HCAPLUS
DOCUMENT NUMBER: 137:231013
TITLE: Protective immunity to rabbit oral and cutaneous papillomaviruses by immunization with short peptides of L2, the minor capsid protein
AUTHOR(S): Embers, Monica E.; Budgeon, Lynn R.; Pickel, Martin; Christensen, Neil D.
CORPORATE SOURCE: Department of Microbiology and Immunology, The Pennsylvania State University College of Medicine, Hershey, PA, USA
SOURCE: Journal of Virology (2002), 76(19), 9798-9805
CODEN: JOVIAM; ISSN: 0022-538X
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The papillomavirus minor capsid protein, L2, has been shown to exhibit **immunogenicity**, whereby a variety of B-cell epitopes, predominantly in the amino terminus of L2, have been deduced. However, immunity to L2 in vivo has not been examined extensively. Notably, a common

neutralization epitope for human papilomavirus (HPV) types 6 and 16 was mapped to amino acids (aa) 108 to 120. The objectives of this study were to derive antisera from rabbits using the corresponding sequences from rabbit viruses and to assess the ability of these peptides to protect against infection. Synthetic peptides consisting of two overlapping sequences each in the region of aa 94 to 122 of the rabbit oral (ROPV) and cottontail rabbit (CRPV) papillomaviruses were used to immunize rabbits. Rabbits were then infected with both ROPV and CRPV and monitored for the development of oral and cutaneous papillomas, resp. Serum derived from rabbits immunized with either of the two peptides was shown to (i) react to purified L2 from the cognate virus, (ii) specifically recognize L2 within **virus-infected** cells, and (iii) neutralize virus in vitro. Following viral challenge, cutaneous papilloma growth was completely absent in rabbits immunized with either CRPV peptide. Likewise, ROPV peptide-immunized rabbits were protected from **oral papillomatosis**. Challenge of CRPV peptide-immune rabbits with the viral genome resulted in efficient papilloma growth, suggesting a neutralizing antibody-mediated mechanism of protection. These results afford in vivo evidence for the **immunogenicity** provided by a distinct region of L2 and further support previous evidence for the ability of this region to elicit antiviral immunity.

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 8 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:771901 HCAPLUS
DOCUMENT NUMBER: 136:130895
TITLE: Comparison of gamma and neutron radiation **inactivation** of **influenza** A virus
AUTHOR(S): Lowy, R. Joel; Vavrina, Gerard A.; LaBarre, David D.
CORPORATE SOURCE: Armed Forces Radiobiology Research Institute/RPT, Bethesda, MD, 20889-5603, USA
SOURCE: Antiviral Research (2001), 52(3), 261-273
CODEN: ARSRDR; ISSN: 0166-3542
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Radiation **inactivation** of **viral pathogens** has potential application in sterilization and in the manufacture of biol. reagents, including the production of non-infectious viral antigens. Viral **inactivation** by gamma radiation has been extensively investigated, but few direct comparisons to other qualities of radiation have been explored. Expts. were designed to examine direct radiation damage by both gamma photons (γ) and neutrons (n) while minimizing methodol. differences. Frozen samples of **influenza** A X31/H3N2 and PR8/H1N1 were exposed to γ and n at doses between 0 and 15.6 kGy. Other exptl. parameters, including dose-rate, were not varied. Virus titers were determined by tissue culture infectious dose (TCID50) and plaque forming unit (PFU) assays. D10 values, kGy per log **reduction**, were calculated from these assays. PR8 D10 values based on PFU assays were approx. 2 and 5 kGy for γ and n exposures, resp., and those based on TCID50 were approx. 6 and 14 kGy. Similar results were obtained for the A/X31 strain. The data demonstrate that γ was 2-3-fold more effective than n, with a relative biol. effectiveness (RBE) range of 0.43-0.65. These neutron results are likely the first reported for a medically relevant virus. PAGE anal. of viral proteins and RNAs failed to show macromol. damage. D10 values were found to be similar to a broad summary of previously reported gamma **inactivation** values for other virus types. The dependence of the magnitudes of D10 on titer assay in this study suggests that more than one titer method should be used to determine if

complete **inactivation** has occurred.
REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 9 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:613048 HCAPLUS
DOCUMENT NUMBER: 135:302483
TITLE: Immunization with a pentameric L1 fusion protein protects against **papillomavirus infection**
AUTHOR(S): Yuan, Hang; Estes, Patricia A.; Chen, Yan; Newsome, Joseph; Olcese, Vanessa A.; Garcea, Robert L.; Schlegel, Richard
CORPORATE SOURCE: Department of Pathology, Georgetown, University School of Medicine, Washington, DC, 20007, USA
SOURCE: Journal of Virology (2001), 75(17), 7848-7853
CODEN: JOVIAM; ISSN: 0022-538X
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The prophylactic papillomavirus vaccines currently in clin. trials are composed of viral L1 capsid protein that is synthesized in eukaryotic expression systems and purified in the form of virus-like particles (VLPs). To evaluate whether VLPs are necessary for effective vaccination, we expressed the L1 protein as a glutathione S-transferase (GST) fusion protein in Escherichia coli and assayed its **immunogenic** activity in an established canine **oral papillomavirus** (COPV) model that previously validated the efficacy of VLP vaccines. The GST-COPV L1 fusion protein formed pentamers, but these capsomere-like structures did not assemble into VLPs. Despite the lack of VLP formation, the GST-COPV L1 protein retained its native conformation as determined by reactivity with conformation-specific anti-COPV antibodies. Most importantly, the GST-COPV L1 pentamers completely protected dogs from high-dose **viral infection** of their oral mucosa. L1 fusion proteins expressed in bacteria represent an economical alternative to VLPs as a human papillomavirus vaccine.
REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 10 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:605927 HCAPLUS
DOCUMENT NUMBER: 136:182138
TITLE: The **humoral** immune response to recombinant nucleo-capsid **antigen** of canine distemper **virus** in dogs vaccinated with attenuated distemper **virus** or DNA encoding the nucleocapsid of wild-type **virus**
AUTHOR(S): Griot-Wenk, M. E.; Cherpillod, P.; Koch, A.; Zurbriggen, R.; Bruckner, L.; Wittek, R.; Zurbriggen, A.
CORPORATE SOURCE: Institute of Animal Neurology, Bremgartenstrasse 109a, University of Berne, Bern, 3012, Switz.
SOURCE: Journal of Veterinary Medicine, Series A (2001), 48(5), 295-302
CODEN: JVMAE6; ISSN: 0931-184X
PUBLISHER: Blackwell Wissenschafts-Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
AB This study compared the **humoral** immune response against the nucleocapsid (N) protein of canine distemper **virus** (CDV) in dogs

vaccinated with a **multivalent vaccine** against parvo-, adeno-, and **parainfluenza virus** and leptospira combined with either the attenuated CDV Onderstepoort strain (n = 15) or an expression plasmid containing the N-gene of CDV (n = 30). The vaccinations were applied i.m. 3 times at 2-wk intervals beginning at the age of 6 wk. None of the pre-immune sera recognized the recombinant N-protein, confirming the lack of maternal antibodies at this age. Immunization with DNA vaccine for CDV resulted in pos. serum N-specific IgG response. However, their IgG (and IgA) titers were lower than those of CDV-vaccinated dogs. Likewise, DNA-vaccinated dogs did not show an IgM peak. There was no increase in N-specific serum IgE titers in either group. Serum titers to the other **multivalent vaccine** components were similar in both groups.

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 11 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:200988 HCAPLUS
TITLE: Nanomaterial antimicrobial agents
AUTHOR(S): Baker, James R., Jr.
CORPORATE SOURCE: Center for Biological Nanotechnology, University of Michigan, Ann Arbor, MI, 48109-0648, USA
SOURCE: Abstracts of Papers - American Chemical Society (2001), 221st, IEC-317
CODEN: ACSRAL; ISSN: 0065-7727
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal; Meeting Abstract
LANGUAGE: English

AB Our work seeks to develop a nanomaterials that will serve as antimicrobial agents and can be used as a decontaminant. This modeled after the immune system in that these materials involve redundant, non-specific and specific forms of pathogen defense and **inactivation**. The first nanostructure is an emulsion containing vegetable oil, surfactants and solvents. This material is less than 500 nm in diameter and can be stored for prolonged periods of time without special precautions. The nanoemulsion **inactivates** bacteria, viruses, fungi and spores through size-dependant disruption of the organism, but is non-toxic. The lack of toxicity also allows this material to function as a pathogen avoidance barrier and post-exposure therapeutic agent applied in a topical manner to wounds, skin and mucous membranes. This material has been field tested as a decon agent and found to **reduce** Bacillus sp. spore count by a million fold over 24 h (Figure 1). It also has been effective in treating wounds contaminated with either Bacillus or Clostridial spores. The second therapeutic involves polymer-based decoy mols. This employs dendritic polymers with primary amine surfaces that are covalently substituted with sialic acid (SA) moieties. This makes them polyvalent receptor decoys for viruses or toxins using SA as a receptor, binding to the viruses and toxins to prevent cell adhesion and internalization. Studies have documented the ability of these decoy mols. to inhibit viral infection of cells, but have documented remarkable variations in the ability of these mols. to inhibit various strains of **influenza** virus. Further studies suggest that variations in the hemeagglutinin mols. on these viruses alter binding to the decoy but not to free SA. Toxicity studies indicate that both these mols. also can be applied safely to skin and mucous membranes, and can be ingested. The nanoemulsions have been demonstrated to have efficacy against a broad range of bacterial and **viral pathogens** of civilian and military relevance, and may have utility in several food and health related capacities.

L20 ANSWER 12 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2000:627451 HCAPLUS
DOCUMENT NUMBER: 133:308471
TITLE: Procoagulant activity of endothelial cells after infection with respiratory viruses
AUTHOR(S): Visseren, F. L. J.; Bouwman, J. J. M.; Bouter, K. P.; Diepersloot, R. J. A.; De Groot, Ph. G.; Erkelens, D. W.
CORPORATE SOURCE: Department of Internal and Vascular Medicine, University Medical Center Utrecht, Utrecht, 3584 CX, Neth.
SOURCE: Thrombosis and Haemostasis (2000), 84(2), 319-324
CODEN: THHADQ; ISSN: 0340-6245
PUBLISHER: F. K. Schattauer Verlagsgesellschaft mbH
DOCUMENT TYPE: Journal
LANGUAGE: English

AB **Influenza** virus epidemics are associated with excess mortality due to cardiovascular diseases. There are several case reports of excessive coagulation during generalized **influenza** virus infection. In this study, the ability of respiratory viruses (**influenza** A, **influenza** B, **parainfluenza**-1, respiratory syncytial virus, adenovirus, cytomegalovirus) to infect lung fibroblasts and human umbilical vein endothelial cells in culture was demonstrated. All **viral pathogens** induced procoagulant activity in infected endothelial cells, as determined in a one-stage clotting assay, by causing an average 55% **reduction** in the clotting time. When factor VII-deficient plasma was used clotting time was not **reduced.** The **induction** of procoagulant activity was associated with a 4-5-fold increase in the expression of tissue factor, as measured by the generation of factor Xa. Both expts. indicate that the procoagulant activity of endothelial cells in response to infection with respiratory viruses in caused by upregulation of the extrinsic pathway. Although both enveloped viruses and a non-enveloped virus (adenovirus) induced procoagulant activity in endothelial cells by stimulating tissue factor expression, the role of the viral envelope in the assembly of the prothrombinase complex remains uncertain. Thus, both enveloped and non-enveloped respiratory viruses are capable of infecting cultured human endothelial cells and causing a shift from anticoagulant to procoagulant activity associated with the **induction** of tissue factor expression.

REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 13 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2000:224575 HCAPLUS
DOCUMENT NUMBER: 133:85001
TITLE: Rabbit **Oral Papillomavirus** Complete Genome Sequence and Immunity Following Genital Infection
AUTHOR(S): Christensen, Neil D.; Cladel, Nancy M.; Reed, Cynthia A.; Han, Ricai
CORPORATE SOURCE: Department of Pathology, The Milton S. Hershey Medical Center, Penn State College of Medicine, Hershey, PA, 17033, USA
SOURCE: Virology (2000), 269(2), 451-461
CODEN: VIRLAX; ISSN: 0042-6822
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Rabbit **oral papillomavirus** (ROPV) infects mucosal tissues of domestic rabbits. The viral genomic sequence has been determined and the most related papillomavirus type was the cutaneous cottontail

rabbit papillomavirus (CRPV). Homologies between the open reading frames (ORFs) of ROPV and CRPV, however, ranged from 68% amino acid identity for L1 to only 23% identity for E4. Shared features unique to the two rabbit viruses included a large E6 ORF and a small E8 ORF that overlapped the E6 ORF. Serol. responses to ROPV L1 viruslike particles (VLPs) were detected in rabbits infected at either the genital or oral mucosa with ROPV. The antibody response was specific to intact ROPV L1 VLP antigen, was first detected at the time of late regression, and persisted at high levels for several months after complete regression. Both oral and genital lesions regressed spontaneously, accompanied by a heavy infiltrate of lymphocytes. ROPV infection of rabbit genital mucosa is a useful model to study host **immunol. responses** to genital **papillomavirus infections**. (c) 2000 Academic Press.

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 14 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:594440 HCAPLUS
DOCUMENT NUMBER: 131:298430
TITLE: **Lyssavirus** glycoproteins expressing immunologically potent foreign B cell and cytotoxic T lymphocyte epitopes as prototypes for **multivalent vaccines**
AUTHOR(S): Desmezieres, Emmanuel; Jacob, Yves; Saron, Marie-Francoise; Delpeyroux, Francis; Tordo, Noel; Perrin, Pierre
CORPORATE SOURCE: Laboratoire des Lyssavirus, Paris, 75724, Fr.
SOURCE: Journal of General Virology (1999), 80(9), 2343-2351
CODEN: JGVIAY; ISSN: 0022-1317
PUBLISHER: Society for General Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Truncated and chimeric **lyssavirus** glycoprotein (G) genes were used to carry and express non-**lyssavirus** B and T cell epitopes for DNA-based immunization of mice, with the aim of developing a **multivalent vaccine** prototype. Truncated G (GPVIII) was composed of the C-terminal half (aa 253-503) of the Pasteur rabies **virus** (PV: genotype 1) G containing **antigenic** site III and the transmembrane and cytoplasmic domains. The chimeric G (GEBL1-PV) was composed of the N-terminal half (aa 1-250) of the European bat **lyssavirus** 1 (genotype 5) G containing **antigenic** site II linked to GPVIII. **Antigenic** sites II and III are involved in the induction of **virus**-neutralizing antibodies. The B cell epitope was the C3 neutralization epitope of the **poliovirus** type 1 capsid VP1 protein. The T cell epitope was the H2d MHC I-restricted epitope of the nucleoprotein of lymphocytic choriomeningitis **virus** (LCMV) involved in the induction of both cytotoxic T cell (CTL) production and protection against LCMV. Truncated G carrying foreign epitopes induced weak antibody production against rabies and polio **viruses** and provided weak protection against LCMV. In contrast, the chimeric plasmid containing various combinations of B and CTL epitopes elicited simultaneous immunol. responses against both parental **lyssaviruses** and **poliovirus** and provided good protection against LCMV. The level of **humoral** and cellular immune responses depended on the order of the foreign epitopes inserted. Our results demonstrate that chimeric **lyssavirus** glycoproteins can be used not only to broaden the spectrum of protection against **lyssaviruses**, but also to express foreign B and CTL epitopes. The potential usefulness of chimeric **lyssavirus** glycoproteins for the development of **multivalent vaccines** against animal diseases and

zoonoses, including rabies, is discussed.
REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 15 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:26330 HCAPLUS
DOCUMENT NUMBER: 130:48956
TITLE: Simian herpes b **virus** glycoprotein d and its application in engineering recombinant **viral** vaccines for **humoral** immunostimulation
INVENTOR(S): Bennett, Alice Marie
PATENT ASSIGNEE(S): United Kingdom Secretary of State for Defence, UK; United Kingdom Defence Evaluation and Research Agency
SOURCE: Brit. UK Pat. Appl., 23 pp.
CODEN: BAXXDU
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 2322130	A1	19980819	GB 1997-2990	19970213
GB 2322130	B2	20001220		

PRIORITY APPLN. INFO.: GB 1997-2990 19970213
AB A prophylactic or therapeutic vaccine for use in protecting mammals such as humans or animals is described. The vaccine is based upon the glycoprotein D (gD) of simian herpes B **virus**. Specifically, the vaccine comprises gD of B **virus** or a fragment or variant which is capable of producing a protective immune response in a mammal to which it is administered is presented. Genetic vectors including nucleotide sequences encoding glycoprotein d or fragments or variants is described.

L20 ANSWER 16 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1998:630721 HCAPLUS
DOCUMENT NUMBER: 130:2882
TITLE: Effect of plasmid DNA on immunogenicity of HBsAg-Anti-HBs complex
AUTHOR(S): Qu, Di; Yuan, Zheng-Hong; He, Li-Fang; Yang, Li; Li, Guang-Di; Wen, Yu-Mei
CORPORATE SOURCE: Dep. Mol. Virol., Shanghai Med. Univ., Peop. Rep. China
SOURCE: Viral Immunology (1998), 11(2), 65-72
CODEN: VIIMET; ISSN: 0882-8245
PUBLISHER: Mary Ann Liebert, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Hepatitis B surface **antigen** (HBsAg) complexed with anti-HBs is more immunogenic than HBsAg alone in mice. This complex is usually used with alum as an adjuvant, which can enhance **humoral** response but inhibits cell-mediated immune responses. To improve the immunogenicity of HBsAg-anti-HBs, we immunized mice with a combination of this immunogenic complex and pCMVHBs, a plasmid encoding HBsAg, or the vector pCMV. Both plasmids enhanced the anti-HBs response induced by the immunogenic complex. We found 20 μg of plasmid or vector enhanced the anti-HHBs response in all mice, whereas 1 μg was less effective. Splenocytes from different immunized groups were stimulated with HBsAg in vitro, and the highest level of IL-2 detected in the supernatant was found in mice immunized with HBsAg-anti-HBs plus pCMVHBs. A plasmid (pcDNA3c191) encoding core protein of hepatitis C **virus** (HCV) was used as an

adjuvant to the immunogenic complex. A preliminary result showed that pcDNA3c191 not only enhanced the immunogenicity of HBsAg-anti-HBs, but also induced anti-HCV core antibodies. Immunization using a plasmid DNA encoding one **viral antigen** in combination with **antigen** and antibody complex of another microbial origin could be a new approach to the development of **multivalent vaccines.**

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 17 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1998:410335 HCAPLUS
DOCUMENT NUMBER: 129:187446
TITLE: Stress-induced neuroendocrine modulation of **viral pathogenesis** and immunity
AUTHOR(S): Sheridan, John F.; Dobbs, Cathleen; Jung, Jaeho; Chu, Xiaohong; Konstantinos, Alexandria; Padgett, David; Glaser, Ronald
CORPORATE SOURCE: Department of Oral Biology, College of Dentistry, Columbus, OH, 43210, USA
SOURCE: Annals of the New York Academy of Sciences (1998), 840(Neuroimmunomodulation), 803-808
CODEN: ANYAA9; ISSN: 0077-8923
PUBLISHER: New York Academy of Sciences
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review, with 20 refs. Phys. restraint (RST) was used to examine the interactions among the hypothalamic-pituitary-adrenal (HPA) axis, sympathetic nervous system, and the immune response to infection. In these studies, mice were infected with either herpes simplex virus (HSV) or **influenza** A/PR8 virus so that the impact of neuroendocrine **activation** could be assessed on disease pathophysiol. and anti-viral immunity. RST suppressed lymphadenopathy in draining lymph nodes, **reduced** mononuclear cellular infiltration in the lungs, and suppressed virus-specific cytokine and cytolytic T-cell responses. Blockade of type II glucocorticoid receptors (by RU486) restored cellularity and cytokine responses to both organs in restraint-stressed, infected mice. Thus, the HPA axis modulated cell trafficking and T-cell cytokine responses. However, RU486 treatment failed to restore cytolytic T-cell responses. Blockade of β-adrenergic receptors (by nadolol), in combination with RU486 treatment, fully restored cytolytic T-cell responses, suggesting that catecholamines were involved in suppressing the virus-specific CD8+ cytolytic T-cell response. RST also modulated the local development or expression of antibody-secreting cells (ASC) in the lungs draining lymph nodes, and spleen following infection of restrained mice. RST significantly suppressed the number of virus-specific ASC (IgM, IgG and subclasses IgG1 and IgG2a) in the lungs, mediastinal (MLN) lymph nodes and spleen, while it enhanced the responses in the superficial cervical (SCV) lymph nodes. This observation of differential modulation of ASC responses in the MLN and SCV lymph nodes supports the concept of tissue-specific immunoregulation in response to stress.

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 18 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1997:128048 HCAPLUS
DOCUMENT NUMBER: 126:211022
TITLE: Vaccines for nontypeable Haemophilus **influenzae**
INVENTOR(S): Green, Bruce A.; Zlotnick, Gary W.

PATENT ASSIGNEE(S): Praxis Biologics, Inc., USA
SOURCE: U.S., 24 pp., Cont.-in-part of U.S. Ser. No. 320, 971, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5601831	A	19970211	US 1990-491466	19900309
CA 2047681	AA	19900910	CA 1990-2047681	19900309
EP 606921	A1	19940720	EP 1994-100492	19900309
EP 606921	B1	20000802		
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE				
ES 2063965	T3	19950116	ES 1990-905112	19900309
AT 195076	E	20000815	AT 1994-100492	19900309
US 5780601	A	19980714	US 1995-447653	19950523
US 5955580	A	19990921	US 1995-449406	19950523
US 6420134	B1	20020716	US 1995-448097	19950523

PRIORITY APPLN. INFO.: US 1989-320971 B2 19890309
EP 1990-905112 A3 19900309
US 1990-491466 A3 19900309

AB Protein "e" of H. **influenzae**, a lipoprotein of approx. 28,000 daltons, has been purified and sequenced. Protein "e" and peptides or proteins having a shared epitope, can be used to vaccinate against non-typable (and typable) H. **influenzae** and to prevent otitis media caused by H. **influenzae**. For this purpose, protein "e" or derivs. thereof can be produced in native, synthetic or recombinant forms and can be administered alone or in conjunction with other antigens of H. **influenzae**. Protein "e" can also be used in **multivalent vaccines** designed for H. **influenzae** and one or more other infectious organisms. Protein "e" was isolated from Haemophilus cell envelopes and characterized, polyclonal anti-protein "e" antiserum and monoclonal anti-protein "e" antibodies were prepared, protein "e" gene was isolated and nucleotide sequence was determined and mol. cloning of the gene was performed, bactericidal activity of vaccine comprising protein "e" subunit was studied, and synergy of anti-protein "e" with other antibodies were demonstrated.

L20 ANSWER 19 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1997:72899 HCAPLUS
DOCUMENT NUMBER: 126:142936
TITLE: Immunobiology of pseudorabies (Aujeszky's Disease)
AUTHOR(S): Mettenleiter, Thomas C.
CORPORATE SOURCE: Fed. Res. Cent. Virus Dis. Animals, Inst. Molecular Cellular Virol., Insel Riems, D-17498, Germany
SOURCE: Veterinary Immunology and Immunopathology (1996), 54(1-4), 221-229
CODEN: VIIMDS; ISSN: 0165-2427
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review with 46 refs. Aujeszky's disease (AD), a serious illness of pigs causing significant economic losses in the pig industry, is caused by pseudorabies **virus** (PrV). PrV belongs to the **alphaherpesvirus** subfamily of the **herpesviruses** with a double-stranded DNA genome in an enveloped capsid capable of encoding approx. 70 proteins. For disease control, vaccination with live and

killed vaccines is performed. Recently, 'marked' vaccines have become available for use in eradication programs based on the differentiation between infected and vaccinated animals. PrV is also used as a **viral** vector for the development of **multivalent vaccines**. Despite the effectiveness of PrV vaccines, relatively little is known about the immune response against PrV infection. Several **viral** envelope glycoproteins have been shown to represent targets for antibody responses, and a number of isolated glycoproteins as well as genetically engineered proteins were able to elicit protective immunity. The nature of the cellular immune response is even less defined. Using **viral** mutants genetically engineered to lack specific **antigens**, it has been shown that glycoprotein C (gC) acts as a target for cytotoxic T-lymphocytes, and gB, gC, gD, and gH appear to be involved in stimulation of in vitro proliferation of PBMC from immune animals. In addition, gB and gC have been implicated in recognition of infected cells by lymphokine-activated killer (LAK) cells. In summary, the data indicate a prominent role for **viral** envelope glycoproteins in eliciting **humoral** and cellular immune responses in the animal host. A complicating factor is the ability of PrV to productively infect cells of the hematopoietic system, which may impair immune responses and might also play a role in persistent or latent infection.

REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 20 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1996:750114 HCAPLUS
DOCUMENT NUMBER: 126:17473
TITLE: Nucleic acid vaccines
AUTHOR(S): Cernescu, Costin
CORPORATE SOURCE: "Stefan S. Nicolau" Institute Virology, Bucharest, 79650, Rom.
SOURCE: Romanian Journal of Virology (1995), 46(1-2), 69-73
CODEN: RJVIFC; ISSN: 1018-0532
PUBLISHER: Editura Academiei Romane
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review with 13 refs. Direct DNA delivery in vivo can be utilized for the production of proteins as well as for the **induction** of specific cellular and **humoral** immune response against a large number of **viral pathogens** (**influenza**, hepatitis B, HIV, etc.). Immunogenic levels of gene expression can be achieved in vivo or, alternatively, facilitated DNA inoculation methods have been described for efficient **induction** of protective immunity. DNA immunization of a number of viral target proteins has been accomplished in a variety of species including non human primates. This review focuses on the use of this novel technol. for the prevention of human retrovirus infections. Some safety considerations for viral nucleic acid vaccines and regulatory requirements are also discussed.

L20 ANSWER 21 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1996:469061 HCAPLUS
DOCUMENT NUMBER: 125:192144
TITLE: Free radicals in **viral pathogenesis**
AUTHOR(S): Akaike, Takaaki; Maeda, Hiroshi
CORPORATE SOURCE: Sch. Med., Kumamoto Univ., Kumamoto, 860, Japan
SOURCE: Igaku no Ayumi (1996), 177(13), 869-873
CODEN: IGAYAY; ISSN: 0039-2359
PUBLISHER: Ishiyaku
DOCUMENT TYPE: Journal; General Review

LANGUAGE: Japanese
AB A review, with 21 refs., on the elevation of superoxide anion production upon **influenza** virus infection and elevation of xanthine oxidase activity, **induction** of inducible NO synthetase (iNOS) by infection of viruses through inflammatory cytokines. **Influenza** virus infection induces both superoxide anion and NO production in mouse. The inhibitors of xanthine oxidase and iNOS **reduce** mortality without suppressing virus proliferation. NO may function in host defense with exception as **influenza** virus. Various encephalitis viruses infection **reduces** expression of neuronal NOS.

L20 ANSWER 22 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1995:987401 HCAPLUS
DOCUMENT NUMBER: 124:27569
TITLE: Systemic immunization with papillomavirus L1 protein completely prevents the development of viral mucosal papillomas
AUTHOR(S): Suzich, JoAnn A.; Ghim, Shin-Je; Palmer-Hill, Frances J.; White, Wendy I.; Tamura, James K.; Bell, Judith, A.; Newsome, Joseph A.; Jenson, A. Bennett; Schlegel, Richard
CORPORATE SOURCE: MedImmune, Inc., Gaithersburg, MD, 20878, USA
SOURCE: Proceedings of the National Academy of Sciences of the United States of America (1995), 92(25), 11553-57
CODEN: PNASA6; ISSN: 0027-8424
PUBLISHER: National Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Infection of mucosal epithelium by papillomaviruses is responsible for the induction of genital and oral warts and plays a critical role in the development of human cervical and oropharyngeal cancer. We have employed a canine model to develop a systemic vaccine that completely protects against exptl. induced oral mucosal papillomas. The major capsid protein, L1, of canine **oral papillomavirus** (COPV) was expressed in Sf9 insect cells in native conformation. L1 protein, which self-assembled into virus-like particles, was purified on CsCl gradients and injected intradermally into the foot pad of beagles. Vaccinated animals developed circulating antibodies against COPV and became completely resistant to exptl. challenge with COPV. Successful immunization was strictly dependent upon native L1 protein conformation and L1 type. Partial protection was achieved with as little as 0.125 ng of L1 protein, and **adjuvants** appeared useful for prolonging the host **immune response**. Serum Igs passively transferred from COPV L1-immunized beagles to naive beagles conferred protection from exptl. infection with COPV. Our results indicate the feasibility of developing a human vaccine to prevent mucosal papillomas, which can progress to malignancy.

L20 ANSWER 23 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1994:192312 HCAPLUS
DOCUMENT NUMBER: 120:192312
TITLE: Preparation of multiple **antigen** peptide systems for vaccines and diagnostics.
INVENTOR(S): Tam, James P.
PATENT ASSIGNEE(S): Rockefeller University, USA
SOURCE: U.S., 23 pp. Cont. of U.S. Ser. No. 336,845, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5229490	A	19930720	US 1990-631185	19901220
PRIORITY APPLN. INFO.:			US 1987-47204	19870506
			US 1987-68840	19870630
			US 1989-336845	19890412

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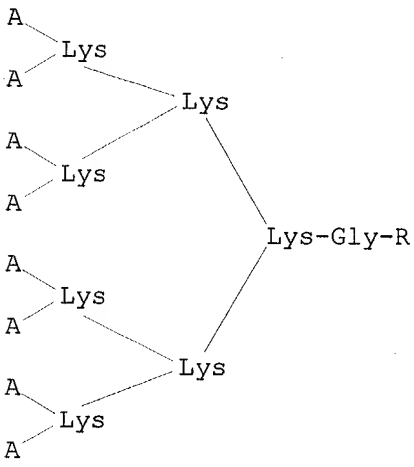

I

AB Multiple **antigen** systems (e.g. an octabranched matrix core with peptide **antigens** I; A = same or different peptide **antigen**-glycine linker; R = OH) are described in which a large number of **antigens** are covalently bound to the functional groups of a dendritic homopolymer core mol. containing up to 10 monomeric residues. The products are useful for producing chemical defined univalent or **multivalent vaccines** and in diagnostic tests. The preferred core mol. is built upon lysine and the preferred **antigenic** mols. are a combination of T-cell and B-cell **antigens**, and malarial, hepatitis **virus** , streptococcus, foot and **mouth** disease, **poliovirus**, and **influenza virus**, and HIV **antigenic** peptides. I (A = H-Ile-Glu-Asp-Asn-Glu-Tyr-Thr-Ala-Arg-Gln-Gly, R = OH) (II) was prepared by the solid phase method via sequential coupling of three levels of Boc-Lys(Boc)-OH on a Boc-Gly-OCH2-Pam resin to give an octabranched peptide core I (A = Boc, R = OCH2-Pam resin) followed by coupling of N-Boc-protected amino acids. Antibody titers between 500-3,000 were found in 2 rabbits immunized with 1 mg II **antigen** in complete Freunds adjuvant.

L20 ANSWER 24 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1989:190622 HCAPLUS
DOCUMENT NUMBER: 110:190622
TITLE: Immunization against multiple **viruses** by using solid-matrix-antibody-**antigen** complexes
AUTHOR(S): Randall, R. E.; Young, D. F.
CORPORATE SOURCE: Dep. Biochem. Microbiol., Univ. St. Andrews, Fife, KY16 9AL, UK

SOURCE: Journal of Virology (1989), 63(4), 1808-10
CODEN: JOVIAM; ISSN: 0022-538X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Mice immunized with solid-matrix-antibody-**antigen** (SMAA) complexes in the absence of adjuvants show vigorous **humoral** and cell-mediated immune responses to the immunizing **antigen.** Various proteins involved in inducing protective immune responses to different **viruses** can easily and simply be incorporated into SMAA complexes, and such complexes act as powerful multivalent immunogens. Construction of such SMAA complexes may be one of the most practical and effective ways of producing multivalent subunit vaccines for use in humans and animals.

L20 ANSWER 25 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1988:217264 HCAPLUS
DOCUMENT NUMBER: 108:217264
TITLE: Vaccines against AIDS using recombinant **viruses** and immunogenic intermediates for preparation of the vaccine and for diagnostic assays
INVENTOR(S): Hu, Shiu Lok; Purchio, Anthony F.; Madisen, Linda
PATENT ASSIGNEE(S): Oncogen, USA
SOURCE: Fr. Demande, 137 pp. Addn. to Fr. Demande Appl. No. 86 05073.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2587720	A2	19870327	FR 1986-13414	19860925
FR 2587720	B2	19950210		
FR 2593519	A1	19870731	FR 1986-5073	19860409
FR 2593519	B1	19940107		
AU 8662992	A1	19870409	AU 1986-62992	19860922
AU 608205	B2	19910328		
SE 8604007	A	19870326	SE 1986-4007	19860923
DK 8604554	A	19870326	DK 1986-4554	19860924
FI 8603848	A	19870326	FI 1986-3848	19860924
NO 8603803	A	19870326	NO 1986-3803	19860924
GB 2181435	A1	19870423	GB 1986-22987	19860924
GB 2181435	B2	19900110		
ZA 8607281	A	19870527	ZA 1986-7281	19860924
HU 42133	A2	19870629	HU 1986-4072	19860924
HU 205780	B	19920629		
ES 2002490	A6	19880816	ES 1986-2123	19860924
CH 676247	A	19901228	CH 1986-3821	19860924
WO 8702038	A1	19870409	WO 1986-US2002	19860925
W: DE				
NL 8602422	A	19870416	NL 1986-2422	19860925
CN 86106632	A	19870513	CN 1986-106632	19860925
CN 1020752	B	19930519		
JP 63068075	A2	19880326	JP 1986-225052	19860925
DE 3690508	T	19880623	DE 1986-3690508	19860925
AT 8602567	A	19950515	AT 1986-2567	19860925
IL 80073	A1	19950124	IL 1986-80073	19861231
ES 2006941	A6	19890516	ES 1988-1494	19880513
US 5081029	A	19920114	US 1989-304926	19890201

SE 9102974	A	19930415	SE 1991-2974	19911014
SE 9102975	A	19930415	SE 1991-2975	19911014
SE 9102976	A	19930415	SE 1991-2976	19911014
PRIORITY APPLN. INFO.:			US 1985-779909	19850925
			US 1986-842984	19860327
			FR 1986-5073	19860409
			US 1986-905217	19860909
			US 1986-909447	19860919
			WO 1986-US2002	19860925

AB Recombinant **viruses** which express **antigenic** peptides or proteins of lymphadenopathy-associated **virus** (LAV)/human T-cell leukemia **virus** III (HTLV-III). Live or inactivated **viruses** or the peptides and proteins expressed are used to formulate vaccines or **multivalent vaccines** for protection against infection by LAV/HTLV-III. The peptides or proteins, produced by recombinant DNA techniques or chemical synthesis, are also used in immunol. diagnostic assays. Plasmid pv-env5, containing the LAV envelope gene inserted in the thymidine kinase genome of the vaccinia **virus** and downstream from vaccinia **virus** transcriptional control elements, was constructed and used to transfect cells injected with vaccinia **virus** v-NY to make recombinant vaccinia v-env5NY. Juvenile chimpanzees were intradermally inoculated twice with v-env5NY 8 wk apart. Antibodies specific to LAV/HTLV-III were found in the vaccinated animals. The animals showed autocicatrization of skin lesions typical of vaccinia **virus** infections and normal physiol. results. The recombinant **virus** was less neurotoxic, did not suppress immunol. responses to mediation by T-cells or T-lymphocytes, and could raise the **humoral** response specific to LAV/HTLV-III.

L20 ANSWER 26 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER:	1981:546717 HCAPLUS
DOCUMENT NUMBER:	95:146717
TITLE:	Proteolytic cleavage of **influenza** virus hemagglutinins: primary structure of the connecting peptide between HA1 and HA2 determines proteolytic cleavability and pathogenicity of avian **influenza** viruses
AUTHOR(S):	Bosch, F. X.; Garten, W.; Klenk, H. D.; Rott, R.
CORPORATE SOURCE:	Inst. Virol., Justus-Liebig-Univ., Giessen, D-6300, Fed. Rep. Ger.
SOURCE:	Virology (1981), 113(2), 725-35 CODEN: VIRLAX; ISSN: 0042-6822
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB The structural basis for the different proteolytic cleavability of **influenza** virus hemagglutinin (HA) was investigated with a group of pathogenic and nonpathogenic avian **influenza** viruses belonging to the antigenic subtype H7 (Hav1). Infected cell lysates or lysates of purified virus particles were subjected to 2-dimensional gel electrophoresis. The 1st dimension, isoelec. focusing, was done under **nonreducing** conditions, and the 2nd dimension, SDS-polyacrylamide gel electrophoresis, under **reducing** conditions. The amino acid sequence of the connecting peptide between HA1 and HA2 dets. proteolytic cleavability by a trypsinlike cellular enzyme. Upon proteolytic cleavage of HA of pathogenic strains, peptides of differing pos. charge were eliminated. These HAs had, however, more basic connecting peptides than HAs of nonpathogenic viruses. HAs of nonpathogenic H7 strains appeared to have a connecting peptide similar to that of human **influenza** viruses, since treatment of these viruses with trypsin resulted in a similar small charge shift which probably corresponded to the elimination

of 1 basic amino acid. Thus, the primary structure of the connecting peptide dets. biol. **activation** and thereby pathogenicity of these viruses.

L20 ANSWER 27 OF 27 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1961:87974 HCAPLUS
DOCUMENT NUMBER: 55:87974
ORIGINAL REFERENCE NO.: 55:16657d-i,16658a-e
TITLE: Relation between structure of benzimidazole derivatives and selective virus inhibitory activity; inhibition of poliovirus multiplication and cytopathic effects by 2-(α-hydroxybenzyl)benzimidazole and its 5-chloro derivative
AUTHOR(S): Tamm, Igor; Bablanian, Rostom; Nemes, Marjorie M.; Shunk, Clifford H.; Robinson, Franklin M.; Folkers, Karl A.
CORPORATE SOURCE: Rockefeller Inst., New York
SOURCE: Journal of Experimental Medicine (1961), 113, 625-55
CODEN: JEMEAV; ISSN: 0022-1007
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB cf. CA 47, 11328a; 48, 13077a; 2597f. The virus inhibitory activity and selectivity of some benzimidazole (I), benzotriazole (II), and naphthimidazole (III) derivs. were determined The compds. were tested against **influenza** B virus in the chorioallantoic membrane in vitro and poliovirus type 2 in monkey kidney cells. The results indicate that extensive substitution in either the benzenoid or imidazole ring frequently gives compds. of very high virus inhibitory activity. The relative inhibitory activity against **influenza** virus multiplication by derivs. of I was as follows (compared with I as 1.0); 5-sulfo <0.35, 5-sulfamoyl 1.3, 5-sulfamoyl-2-methyl 0.60, 2-(5-benzimidazolesulfonamido)thiazole <1.8, 5-benzimidazolesulfonanilide 23, 5-benzimidazolesulfon-p-toluidide 19, 5-amino <1.0, 5-(p-toluenesulfonamido)- (IV) 250, 5-(3,4-dichlorobenzenesulfonamido)-(V) 350, 5-(3,4-dichlorobenzenesulfonamido)-1-(3,4-dichlorobenzenesulfonyl)-(IV) 560, 5-fluoro 1.4, 5-trifluoromethyl 6.5, 5-phenyl 12, 5-tert-butyl 13, 5-(1-methylbutyl)- 45, 5,6-diisopropyl 11, 6-amino-4-hydroxybenzimidazole sulfate 4.1, 5-hydrazino-2-mercapto 2.3, 5-(5-chloro-2-hydroxy-4-methylbenzamido)-2-mercapto 2.7, 5-(2-cyanoacetyl-5-coumaronesulfonamido)-2-mercapto 3.2, 5-[3-(5-chloro-2-hydroxy-4-methylphenylcarbamoyl)benzenesulfonamido]-2-mercapto 3.2, 1-(p-nitrobenzenesulfonyl)-5,6-dichloro <0.66, 1-(m-nitrobenzenesulfonyl)-5,6-dichloro <0.66, 1-(p-nitrobenzoyl)-5,6-dichloro <0.66, 1-(p-nitrobenzenesulfonyl)-2-hydroxy-5,6-dichlorobenzimidazoline 4.3, 1-(m-nitrobenzenesulfonyl)-2-hydroxy-5,6-dichlorobenzimidazoline 6.1, 2-aminomethyl-5,6-dichloro 4.1, 2-(2-aminoethyl)-5,6-dichloro 13, 2-(3-aminopropyl)-5,6-dichloro 13, 2-amyl-5-methyl 48, 2-heptyl-5-methyl 83, 2-hydroxymethyl <0.67, 2-(1-hydroxyethyl)- <0.66, 2-(α-hydroxybenzyl)- (HBB) <0.92, 2-(α-hydroxybenzyl)-5-chloro (VII) <0.71, 2-(α-hydroxybenzyl)-5,6-dichloro <1.2, 2-(α-hydroxybenzyl)-5,6-dimethyl <0.66, 2-benzoyl <0.41, 2-benzyl <0.73, 2-(p-aminobenzenesulfonamido)- <1.3, 5,6-dimethyl-1-(β-D-ribofuranosyl)- 1.3 and 2-ethyl-5,6-dichloro-1-(β-D-ribofuranosyl)- 3.9. Activity of III derivs. in the same system was (compared with I as 1.0): naphth[2,3]-imidazole 3.9, 2-ethylnaphth[2,3] imidazole <1.0, 2-hydroxynaphth-2,3-imidazole <1.0, and naphth[1,2] imidazole 9.5; and of II derivs.: (II 0.47), 5-chloro 5.7, 5,6-dichloro 65, 4,5,6-trichloro (VIII) 290, 4,5,6,7-tetrachloro (IX) 1200, 5-fluoro 1.3, 5-trifluoromethyl 19, 5,6-dimethyl <0.66, 6-amino-4-hydroxybenzotriazole-2HCl 2.5, 5-hydroxybenzotriazole-4-

carboxylic acid 0.49, 5-hydroxybenzotriazole-6-carboxylic acid 0.52, 5-hydroxybenzotriazole-6-carboxanilide 2.9, 6-hydroxybenzotriazole-4-carboxylic acid 1-naphthylamide 270, 4-(p-chlorophenylazo)-5-hydroxybenzotriazole 810, 1-(β-D-ribofuranosyl)-5,6-dichloro 2.3, 1-(β-D-ribofuranosyl)-5,6-dichloro 4.7, 2-(α-D-ribofuranosyl)-5,6-dichloro 6.4, and 2-(β-D-ribofuranosyl)-5,6-dichloro 4.2. Of these 65 compds. 25 were also tested on poliovirus, and 5 of the 7 most active compds. against **influenza** were more than 100 times as active as I against poliovirus. In addition to these 5 (IV 130, V 230, VI 280, VII 120, and IX 350), 2 other compds. were highly active against poliovirus: HBB and VII, with relative inhibitory activities of 78 and 130, resp. HBB, VII, and the much less active 5,6-dichloro derivative of HBB were the only compds. which showed no, or only slight, toxic effects on monkey kidney cells at concns. sufficient to cause considerable inhibition of poliovirus multiplication. Furthermore, HBB and its 5-chloro derivative were the only ones which significantly inhibited the cytopathic effects of poliovirus. HBB, its 5-chloro and 5,6-dichloro derivs. had no effect on multiplication of **influenza** B virus in chorioallantoic membrane, and HBB failed to inhibit its multiplication and cytopathic effects in monkey kidney cells. Inhibition of poliovirus-induced cell damage by HBB was characterized by the following features: the curves relating **reduction** in virus yield or cytopathic effects to concentration of the compound followed an approx. parallel course, and somewhat higher concns. were required to inhibit virus-induced cell damage than to **reduce** virus yield. HBB suppressed viral cytopathic effects for a period of time which varied directly with the concentration of HBB, and inversely with the amount of virus inoculum. Development of virus-induced cell damage in treated cultures on prolonged incubation was not due to **inactivation** of HBB. The inhibitory effect of HBB on virus-induced cell damage was reversible by removal of HBB. HBB inhibited viral cytopathic effects when given during the exponential phase of virus multiplication. HBB did not **inactivate** the infectivity of poliovirus type 2.

STN Search


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     FILE 'HCAPLUS' ENTERED AT 15:28:28 ON 13 NOV 2003
L1            0 SEA ABB=ON  ?MULTIVAL?(W)?ANTIVIRAL?(W)?VACCIN?
L2          203 SEA ABB=ON  ?MULTIVAL?(W)?VACCIN?
L3           87 SEA ABB=ON  L2 AND (?VIRUS? OR ?VIRAL?)
L4           64 SEA ABB=ON  L3 AND ?ANTIGEN?
L5            0 SEA ABB=ON  L4 AND ?HEAT?(W)?INACT?
L6            2 SEA ABB=ON  L3 AND ?HEAT?
L7            9 SEA ABB=ON  L4 AND (?ORAL? OR ?MOUTH?)
L8           11 SEA ABB=ON  L6 OR L7
L9          480 SEA ABB=ON  (?VIRUS? OR ?VIRAL?)(W)?PATHOGEN? AND (?INDUCT? OR
                            ?ACTIVAT?)
L10          97 SEA ABB=ON  L9 AND (?REDUC? OR ?ORAL? OR ?MOUTH?)
L11          10 SEA ABB=ON  L10 AND ?INFLUENZA?
L12           4 SEA ABB=ON  L8 AND ?INFLUENZA?
L13           3 SEA ABB=ON  ?IMMUNOGEN? AND (?ORAL? OR ?MOUTH?)(W)(?PILL? OR
                            ?TABLET)
L14           6 SEA ABB=ON  (?IMMUNOGEN? OR ?IMMUN?(W)?RESPONS?) AND (?ORAL?
                            OR ?MOUTH?)(W)(?PILL? OR ?TABLET)
L15           1 SEA ABB=ON  L14 AND ?ADJUVANT?
L16           1 SEA ABB=ON  L14 AND (ADD? OR ?ADJUVANT?)
L17           0 SEA ABB=ON  L14 AND ?FUNG?(W)?INFLUENZA?
L18           0 SEA ABB=ON  L14 AND ?INFLUENZA?
L19           4 SEA ABB=ON  L14 AND (?VIRUS? OR ?VIRAL?)(W)?INFECT?
L20          27 SEA ABB=ON  L8 OR L11 OR L12 OR L14 OR L16 OR L19

     FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, JICST-EPLUS, JAPIO' ENTERED AT
     16:35:32 ON 13 NOV 2003
L21         189 SEA ABB=ON  L20
L22         153 DUP REMOV L21 (36 DUPLICATES REMOVED)
L23       * 113 SEA ABB=ON  L22 AND ?INFLUENZA?
L24           0 SEA ABB=ON  L23 AND ?HEAT?(W) ?INACT?
L25      275051 SEA ABB=ON  (INFLUENZA? OR CYTOMEG? OR AVIAN?(W) LEUKOSIS?(W)
                            SARCOMA? OR ROUS?(W) SARCOMA? OR MAMMAL?(2A) MURINE? OR
                            FELINE?(W)(LEUKEMIA? OR ?IMMUN?) OR FIV OR SIMIAN?(W)(SARCOMA?
                            OR AIDS? OR T(W) CELL?) OR MOUSE?(W) MAMMARY? OR D(W) TYPE? OR
                            MASON?(W) PFIZER?(W) MONKEY?)
L26         109 SEA ABB=ON  L23 AND L25
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27 cites from CA Plus (included herewith)

Inventor Search

=> d ibib abs ind 2-2

L3 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:564860 HCAPLUS
DOCUMENT NUMBER: 135:142203
TITLE: Vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders
INVENTOR(S): **Jira, Vic; Jirathitical, Vichai**
PATENT ASSIGNEE(S): USA
SOURCE: PCT Int. Appl., 56 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001054717	A1	20010802	WO 2001-US2811	20010129
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 2003092145	A1	20030515	US 2001-935344	20010823
US 2002164343	A1	20021107	US 2002-118017	20020409
PRIORITY APPLN. INFO.:			US 2000-494607 A	20000131
			US 2000-227520P P	20000824

AB A vaccine composition for treating or preventing pathogen-induced infections, malignant diseases, and immune disorders, i.e., inflammation and autoimmune diseases, is disclosed, along with a process for manufacturing the composition and various methods of using the composition The composition comprises
pathogen-infected cell or tissue, or malignantly or immunol. aberrant cells or tissues which are reduced and/or denatured. The preferred composition is administered across the mucosal surface of a subject suffering or about to suffer from infection, tumor, or immune disease. The composition is administered as a preventive or a therapeutic vaccine.
IC ICM A61K039-00
ICS A61K039-12; A01N063-00
CC 63-3 (Pharmaceuticals)
ST vaccine malignant disease immune disorder; infection vaccine blood
IT Intestine, disease
(Crohn's; vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)
IT Sarcoma
(Kaposi's; vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)
IT Prion proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(PrPSc; vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)
IT Eye
(conjunctiva; vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)
IT Gingiva

Respiratory tract
(disease; vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)

IT Immunity
(disorder; vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)

IT Parasite
(endo-; vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)

IT Uterus
(endometrium; vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)

IT Muscle, disease
(fibromyalgia; vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)

IT Vaccines
(influenza; vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)

IT Transplant and Transplantation
(kidney; vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)

IT Cheek
Mouth
Nose
Respiratory tract
Vagina
(mucosa; vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)

IT Vaccines
(oral; vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)

IT Skin, disease
(pyoderma; vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)

IT Intestine
(rectum, mucosa; vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)

IT Mucous membrane
(respiratory tract; vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)

IT Drying
(spray; vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)

IT Kidney
(transplant; vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)

IT Animal tissue culture
Animal virus
Antitumor agents
Bacteria (Eubacteria)
Bleaching
Blood
Contraceptives
Coxiella
Crosslinking
Denaturation
Detergents
Freeze drying
Fungi
Human herpesvirus

Human immunodeficiency virus 1
Inflammation
Mycoplasma
Pathogen
Rickettsia
Tuberculosis
Vaccines
Viroid
Wound healing
(vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)

IT Acids, processes
Aldehydes, processes
Bases, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)

IT Antigens
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)

IT Antigens
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vaccine composition for prevention of pathogen-induced infections and malignant diseases and immune disorders)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT